

3400 Forest Pest Management

October 6, 1982

Pest Survey of the Rockgrass Sale Area, Barlow Ranger District

Forest Supervisor, Mt. Hood NF

In response to a request from the District to obtain information for immediate planning purposes, the following information concerning the Rockgrass Sale Area on the Barlow Ranger District is presented:

The Rockgrass Sale Area, 990 acres, was surveyed by Forest Pest Management pathology crews this past summer along with three other sale areas on the District. A more detailed report concerning all four sale areas will appear later.

The Rockgrass Sale Area contains an upper elevation (5,000 to 6,000 feet) old-growth stand composed of several conifer species including noble fir, mountain hemlock, subalpine fir, lodgepole pine, western white pine, and Engelmann spruce. The most damaging pest in the stand is laminated root rot, caused by the fungus *Phellinus weirii*. Damage appears as scattered mortality centers, primarily in the northern half of the stand. No damage was found west of the main road that bisects the stand. Most of the mortality is occurring in mountain hemlock and, to a lesser degree, in noble fir. No mortality was seen in the other tree species.

Laminated root rot is an especially damaging disease in that it persists on the site for as many as 50 years following harvesting. The fungus resides in residual stumps from which it spreads to adjacent susceptible trees via root contacts and grafts. Fortunately, some species show a high degree of resistance to mortality caused by *P. weirii*. Species in the Rockgrass Sale Area are with decreasing order of resistance: lodgepole pine = white pine > noble fir = subalpine fir = Engelmann spruce > mountain hemlock.

Several other pests that are common in old-growth hemlock fir stands were observed in the Rockgrass Sale Area. Conks of the Indian paint fungus, *Echinodontium tinctorius*, were noted quite frequently on old-growth noble fir. Conks generally indicate substantial amounts of advanced decay, and a fair amount of cull should be expected in the stand. Mortality caused by mountain pine beetle (*Dendroctonus ponderosae*) was found scattered throughout the stand in white and lodgepole pine. Other root rots, including *Pomes annosus* and *Armillaria mellea*, were occasionally found in old, weakened or severely wounded trees, particularly fir and hemlock.

We suggest the following recommendations to minimize losses due to pests in the present and future stand:

1. Remove the most severely damaged, infected, and slowest growing trees during harvesting. Clearcutting will do this most easily. However, a seed tree or shelterwood cut (similar to adjacent stands) can be done if the following is headed:

(a) Leave trees should be lodgepole or white pine as a first priority and noble fir, subalpine fir, or spruce as a second priority, especially in the northern part of the stand where laminated root rot is abundant.

(b) Remove all merchantable mountain hemlock and destroy all unmerchantable and advanced regeneration of mountain hemlock throughout the stand.


(c) During harvest operations prevent wounding of leave trees, especially fir and spruce which are thin-barked and especially prone to decay. (A slide tape presentation concerning wound prevention techniques is available from FPM at request).

2. Allow the stand to regenerate either naturally or through spot planting to as much pine and secondly fir/spruce as possible to eliminate a future mountain hemlock component. If white pine is to be planted consider using blister rust-resistant stock.

3. Schedule regular stand improvement activities in the future stand to maintain tree vigor and prevent damage by such pests as the Indian paint fungus, *Armillaria mellea*, *Pomes annosus*, and various bark beetles, which are often opportunists on weakened, wounded, or suppressed trees. Also, eliminate mountain hemlock during thinnings to prevent buildup of *P. weirii* inoculum in the stand.

As mentioned previously, a more detailed report including maps should appear in December. In the interim, if FPM can be of further assistance, please contact us.

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